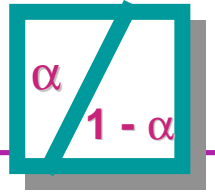
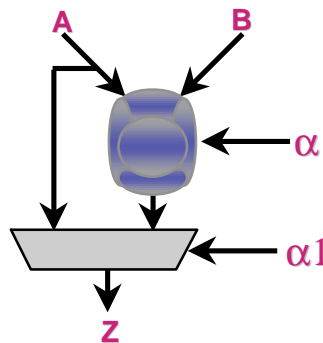


Linear Interpolation - Alpha Blender

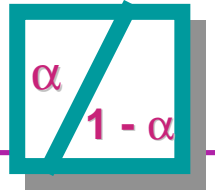


- Alpha Blender, used in graphics and video for pixel blending

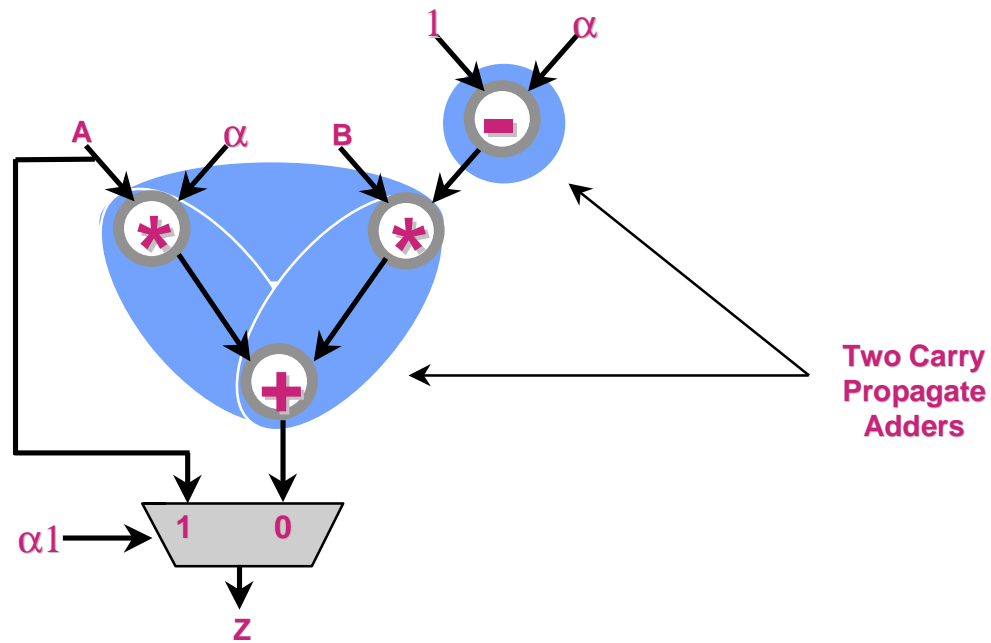


- Definition: $Z = A\alpha + B(1-\alpha)$, range of α is $[0,1]$
A and B are “blended” together; α represents the “coverage” of A.
 - If $\alpha = 0$; $Z = B$
 - If $\alpha = 1$; $Z = A$
 - If $0 < \alpha < 1$; $Z = \text{blend A \& B with ratio defined by } \alpha$

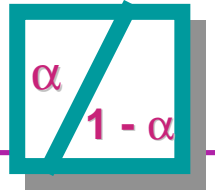
Alpha Blender: Architecture 0



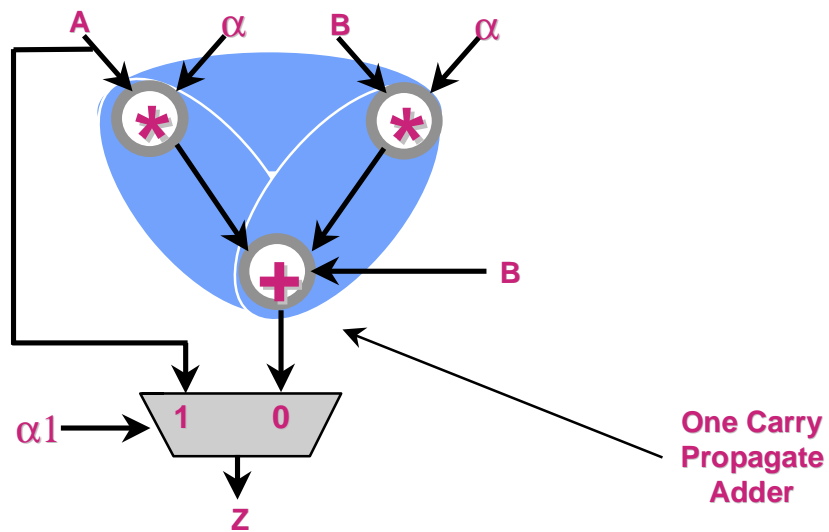
- $Z = A\alpha + B(1-\alpha)$



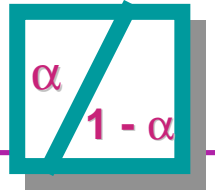
Alpha Blender: Architecture 1



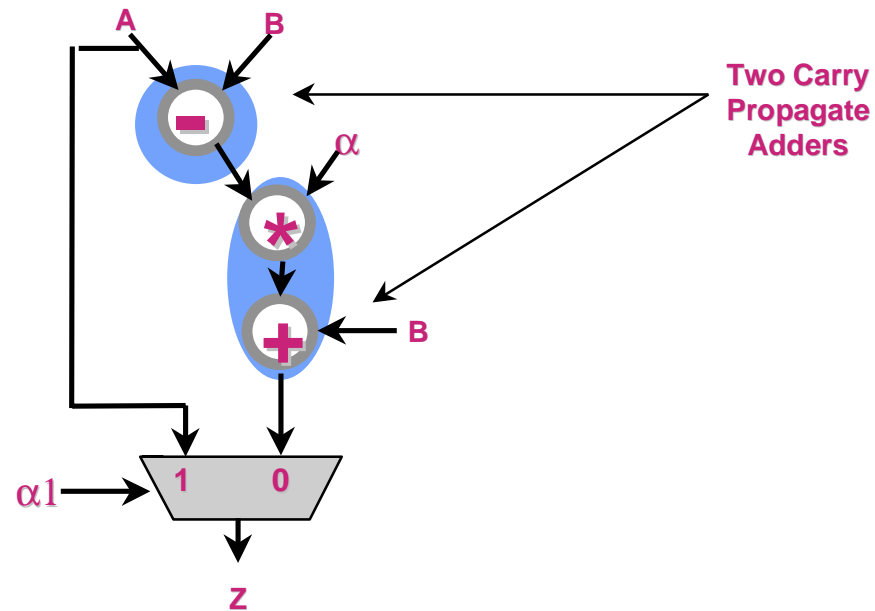
■ $Z = A\alpha - B\alpha + B$



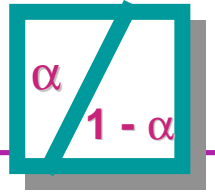
Alpha Blender: Architecture 2



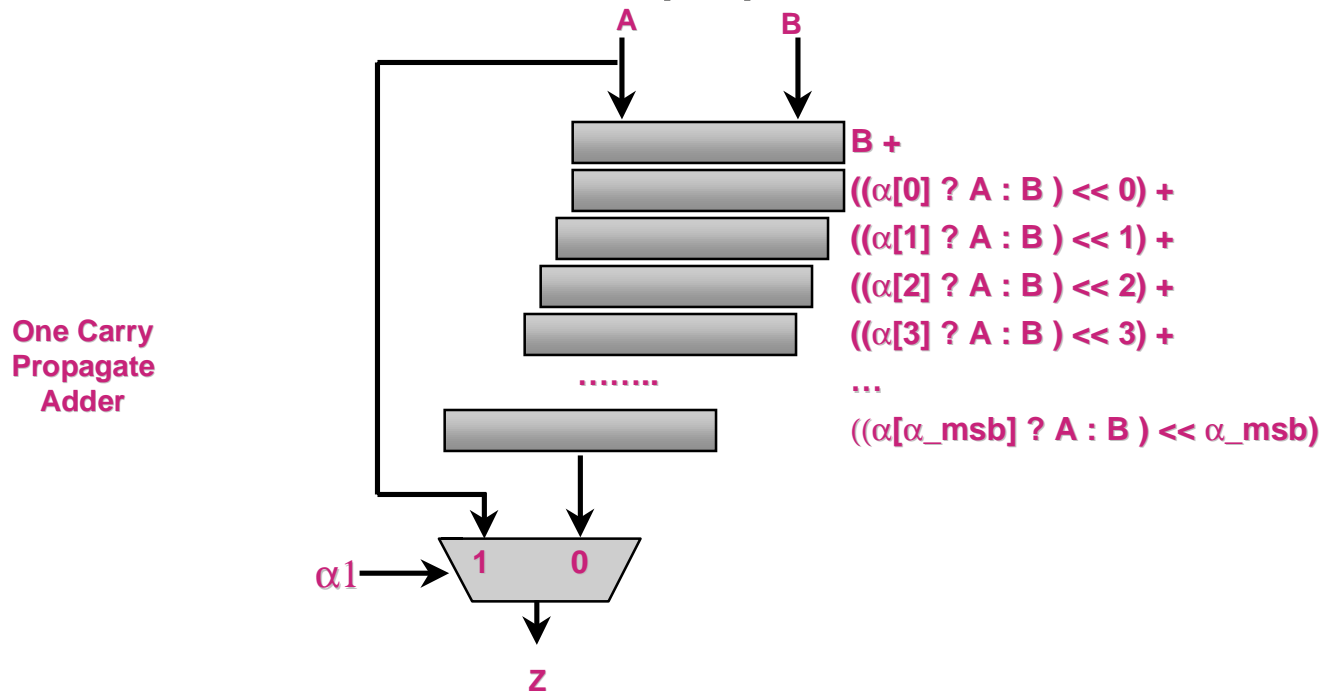
■ $Z = (A - B)\alpha + B$



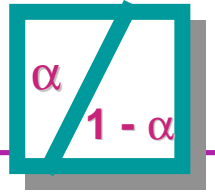
Alpha Blender: Architecture 3



- Because α and $(1 - \alpha)$ are highly correlated, another architecture exists.
- $Z = A\alpha + B*(\sim\alpha) + B*2^{-\alpha_width}$



Alpha Blender: Architecture 4



- **gfxBlend() built in MC function**
- **See also**
 - gfxBit()
 - gfxLogicop()
 - gfxShift()